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CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D.C. 20505

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31 August 1973

MEMORANDUM FOR: The Director of Central Intelligence

**SUBJECT : MILITARY THOUGHT (USSR): Support of
Conventional Operations by the Long-Range
Air Force**

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The author discusses ways to increase long-range aircraft capabilities and effectiveness in support of conventional ground warfare. His suggestions include mounting bombs, including chemical bombs, and missiles on the same aircraft and flying at low altitudes and in narrow flight corridors to foil enemy air defenses. The problems of achieving coordinated control between long-range aviation and other military units during operations are dealt with briefly. This article appeared in Issue No. 2 (87) for 1969.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies.

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William E. Nelson
Deputy Director for Operations

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Intelligence Information Special Report

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COUNTRY USSR

DATE OF Mid 1969
INFO.

DATE 31 August 1973

SUBJECT

MILITARY THOUGHT (USSR): The Employment of Long-Range
Aviation in a Non-Nuclear
Period of a Front Operation

SOURCE Documentary

Summary

The following report is a translation from Russian of an article which appeared in Issue No. 2 (87) for 1969 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The author of this article is Colonel I. Sidorenko. The author discusses ways to increase long-range aircraft capabilities and effectiveness in support of conventional ground warfare. His suggestions include mounting bombs, including chemical bombs, and missiles on the same aircraft and flying at low altitudes and in narrow flight corridors to foil enemy air defenses. The problems of achieving coordinated control between long-range aviation and other military units during operations are dealt with briefly.

End of Summary

Comment:

There is no information in available reference materials which can be firmly associated with the author. Military Thought has been published by the USSR Ministry of Defense in three versions in the past--TOP SECRET, SECRET, and RESTRICTED. There is no information as to whether or not the TOP SECRET version continues to be published. The SECRET version is published three times annually and is distributed down to the level of division commander.

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The Use of Long-Range Aviation in a Non-Nuclear
Period of a Front Operation

by Colonel I. Sidorenko

In order to develop this subject further and more thoroughly,* it appears advisable to examine the methods and principles of using long-range aviation in operations of the ground forces. This branch of aviation will have to fulfil a great many varied missions in a non-nuclear period, including some which would be the responsibility of rocket troops under conditions of nuclear warfare.

There is no doubt that in combat with enemy nuclear means of attack, which remain our principal strike targets even in a non-nuclear period, the decisive role will belong to aviation, since the rocket troops will not be used in this period but will be at constant readiness to carry out their missions in case of transition to nuclear actions. Naturally, under these conditions it will be necessary, in order to rout enemy air, missile, and naval groupings, to hold part of the long-range aviation forces (as a strategic means) at their airfields in a state of constant readiness to take off after our ballistic missile strikes, while the greater part of long-range aviation forces will be assigned to actions using conventional strike means. In such actions, long-range aviation, as the means with the longest range, should be used mainly in areas beyond the range of front means (at a depth of 300 to 500 kilometers).

Long-range aviation will also be called upon to support the landing and combat actions of large airborne landings in the deep rear of the enemy. In supporting large airborne landings, long-range aviation may be made directly responsible for conducting aerial reconnaissance of the landing areas, of enemy air defense means, and of groupings of enemy ground forces along the flight routes of military-transport aviation; for mounting strikes against enemy air defense means and troop groupings before and during drops; for providing radio-jamming cover for large units of military-transport aviation in flight; and for supporting the combat actions of the landing force by mounting air strikes against enemy reserves advancing to the combat areas, as well as against enemy nuclear

*See Collection of Articles of the Journal "Military Thought" No. 2 (81), 1967.

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strike means and his air bases. Part of these missions may be fulfilled in the initial air operation to rout the enemy air grouping. Special forces and means may be assigned to support the drop and combat actions of the landing force.

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The period of non-nuclear actions will be exploited to the maximum for conducting aerial reconnaissance to reveal signs of enemy preparations for a nuclear strike, to conduct final reconnaissance of our strike targets (especially mobile targets and those which have no radar contrast), and to obtain precise information on the enemy air defense system. All reconnaissance aircraft will be used for these missions as well as that part of bomber aviation which is operating with conventional strike means. Since long-range aviation has comparatively few reconnaissance aircraft, aerial reconnaissance of the enemy operational and deep rear will be conducted by regular crews in the course of their fulfilment of combat tasks. As regards the number of long-range aviation forces which may be assigned to work directly with fronts in a period of non-nuclear actions, they may be very limited, especially in the first days of a war.

Thus, in accord with training experience, from one aviation regiment up to a division was allotted to fronts. In training exercises, when an air operation was conducted to rout an enemy air grouping, all the long-range aviation forces which were available on a particular axis were drawn in for combat actions, in line with the plan of the Supreme High Command, and mounted several massive strikes. Part of the regiments which did not suffer large losses were later shifted to direct support of troops of the fronts. Considering the great volume of missions and the very limited forces for their fulfilment, it is advisable to give long-range aviation units only those missions which cannot be fulfilled by forces and means of the front. The specific missions for these units must be set by the front troop commander on the basis of the situation which has developed and on the resources which were allocated to him.

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As indicated by training exercises and research, the most important targets for long-range aviation in support of troops of a front will be: aircraft of tactical aviation at their airfields and operational rockets at their positions; enemy reserves directly threatening the successful advance of our troops and located in concentration areas; loading and unloading points with various kinds of transport; and control centers and points. Because of the nature of these targets and the comparatively low effectiveness of conventional means in comparison with nuclear means, high strike

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densities are required. Therefore, the main method in combat actions by long-range aviation using conventional strike means will be a simultaneous strike by air regiments against several targets located within a limited area.

In the course of a rapidly-changing situation, when the main strike targets will be mobile and when it will be necessary to retarget regiments (groups of aircraft) already in the air or to direct aircraft from airfields against unplanned targets or more important targets discovered at the last minute, successive strikes may also be mounted. For timely retargeting of aircraft in the air, command points and crews must have a clear, predetermined system of target designation targetting which will make it possible to transmit commands in a short time. This is particularly important, for example, in actions against such targets as aircraft at airfields and enemy reserve troops.

As is known, the time needed for retargeting is the sum total of the time needed for making the decision, encoding, transmission of orders to crews, decoding, comprehension of the mission, completion of calculations, search for the target (final reconnaissance), and targetting. This takes an average of forty to fifty minutes when mounting a strike on a new target. If this time is not available, all that can be done is to order a strike on the alternate target for which the crew was briefed before taking off. Considerably more time (up to several hours, depending on the status of the regiment) may be required for carrying out a newly assigned mission when the regiment is on the ground. This must also be taken into account by combined-arms commanders in formulating new missions for aviation.

In actions against the most mobile targets, the use of "hunt" methods is not ruled out, i.e., an independent search and attack of targets discovered by crews in flight. However, this can be effective only against targets which are weakly defended by air defense means.

The most important principles in using long-range aviation are continuity of actions and aggressiveness.

Aggressiveness and continuity of combat actions can be achieved mainly by maneuvering forces (without breaking off combat actions), basing long-range aviation units closer to the front line, and making use of the airfields of front aviation. This assures more

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reliable communication between long-range aviation and the front in whose support it will be operating and will make it possible for each crew to make two or three sorties a day during an intense period of combat. Part of the airfields of front aviation will be used as alternate airfields, at which there must be duty forces and means to receive aircraft of long-range aviation. These airfields must be well camouflaged. In addition, it is necessary to conduct aggressive combat with enemy reconnaissance, create false radio networks in aviation large units, observe radio silence, and make individual aircraft flights for diversionary purposes. Such methods were used successfully by long-range aviation in World War II.

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The combat capabilities of long-range aviation aircraft using conventional strike weapons can be increased by mounting both bombs and missiles on delivery aircraft and using them together. A methodology for such use has been developed and tested by long-range aviation in recent years. On the one hand, when bombs and missiles are used together, part of the delivery aircraft of the nuclear echelon are freed to reinforce the echelon using conventional strike weapons, and, on the other hand, calculations show that the force of the firepower of each aircraft on the non-nuclear echelon is increased by a factor of two to three. In addition, there is an increase in capabilities for overcoming enemy air defenses in the target areas of our operations.

Aerial bombs, including chemical bombs, and missiles with conventional charges may be used in various sequences. Thus, for greater success in overcoming air defenses and assuring group missile launches (which necessitates the fulfilment of more complex and coordinated maneuvering of the groups in a combat formation), it is advisable to mount missile strikes on the closer targets first, and then bombing strikes on the more distant targets. In actions against carrier strike groupings and ships, it is also advisable first to strike ships carrying long-range radar and SAM with missiles of one type and then attack the strike carriers (ships) with missiles of another type and with bombs.

To increase the tactical radius of aircraft, it is advantageous to mount the first strike with bombs against the closer targets, and then to strike the more distant targets with missiles. In this case, the attainable radius increases to equal the range of the missiles, which is particularly important in low-altitude flights. Against groupings of enemy forces and other targets which lack radar contrast, a bomb strike may also be used first, with missiles used

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later. The targets of combined strikes by aerial bombs and missiles must be far enough apart to give the crews time to reach the proper altitude for dropping bombs or launching missiles and to complete the required change of formation, preparation of equipment, target location, sighting, and the actual mounting of the strike.

Consequently, the use of delivery aircraft in this capacity not only increases their combat capabilities but also makes it possible to vary the operating tactics of units and to overcome the enemy air defense system more effectively. The variant of arming a single aircraft with mixed ammunition may be used widely in actions of long-range aviation units supporting troops of a front when additional missions are likely to arise during the fulfilment of a principal mission.

The capabilities for using long-range aviation in a non-nuclear period are reduced by the difficulties of conclusively overcoming powerful modern air defenses. Therefore, in order to succeed in overcoming enemy air defenses, long-range aviation will have to use its own forces and means to neutralize them.

In order to carry out this mission on selected flight axes leading to the main strike targets, long-range aviation can use varied flight tactics, active and passive jamming, and strikes against air defense means with missiles and aerial bombs.

Among the tactical methods employed, there should be particularly wide use made of flights at low and very low altitudes in combat formations of increased density both in depth and in altitude; actions at night and under complex weather conditions must also be used widely. Overflights of the front line and SAM zones can be made along narrow sectors, through narrow corridors, and by bypassing areas in which there are heavy concentrations of Hawk systems. In this way, the number of launchers capable of firing on our aircraft will be reduced, and the total number of enemy fighter aircraft which may be in action against them will diminish.

Air actions at low and very low altitudes deserve particular attention. Thus, calculations made at training exercises and in various scientific research projects have shown the following results: flying at low and very low altitudes will reduce total losses by a factor of three to four; an increase in the density

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of combat formations during overflights of from five to ten aircraft per minute will reduce losses from Hawk SAM by a factor of 1.7 to 2; the execution of a maneuver against fighter aircraft will lessen the probability of enemy fighter aircraft being directed against our aircraft by forty to sixty percent at low altitudes, by thirty to fifty percent at high altitudes, and up to eighty to eighty-five percent if jamming is used; the execution of a maneuver against missiles will cut the number of SAM launches by twenty-five to thirty percent; flights at supersonic speeds will reduce total losses by a factor of two to three; flying over mountainous terrain will reduce losses by eight to ten percent; deceptive measures will diffuse the efforts of active air defense means and will lessen the density of SAM fire and the number of fighter attacks by ten to fifteen percent; and the use of active and passive jamming will cut total losses by twenty to thirty percent, at the same time reducing the detection range by twenty to thirty percent, the number of fighter vectorings by fifty to sixty percent, and the number of SAM launches by thirty to forty percent. In this connection, it must be noted that, as shown by the experience of the Vietnam War, it is very important to have active jamming equipment aboard every bomber and missile-carrying aircraft.

All of the enumerated methods and techniques must be used in combination, according to the specific situation. The choice of the most expedient ones to be used will depend on our knowledge of enemy air defense means and how correctly we evaluate them.

In conclusion, let us consider the problems of control. The control of aviation units and large units of long-range aviation in a non-nuclear period will be distinguished in nature and general problems by the fact that the work volume of the formation commander (commanders of large units) and the staffs will increase significantly during the preparation and the course of combat actions, since they will have to settle the problems of planning and organizing control in accord with two variants. This need is best met by centralized control, carried out from the command post of the commander of long-range aviation through command posts of the commanders of large units, and by strict coordination of targets, locations, and timing with other branches of aviation and the armed forces.

Experience has shown that, for close coordination with fronts and for controlling aviation units in the area of combat actions, operations groups must be assigned from large units of long-range

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aviation, and mobile (in automotive vehicles and aircraft) command posts must be set up. Through them, if there is centralized control, the formation commander and the commanders of large units of long-range aviation can more rapidly assign missions to their subordinate large units (units) and control them. There must be a representative of the commander of long-range aviation at the command post of a front which is advancing along a main axis, in order to coordinate the actions of large units and units of long-range aviation.

Mobile and airborne command posts can be used as alternate command posts by commanders of large units or by the commander-in-chief of long-range aviation. The greatest advantage of airborne command posts is that, once they are in the air and near the front line (zone of standing air patrol), they can increase the range of shortwave and ultra-shortwave radio communications and consequently their own capabilities for controlling combat formations of long-range aviation units. The latter is very important in flying at low and very low altitudes.

Operations groups continually inform commanders of large units of long-range aviation concerning requests of fronts and changes in the situation, keep track of the preparation and fulfilment of missions assigned to air units, and control the units in the air. When long-range aviation is called upon to support the drop and combat actions of the airborne landing force, operations groups will also carry out coordination and control in accordance with the decision of the front troop commander. It is advisable for an operations group of long-range aviation to be located near or at the same command post as the air army, in the area of the forward command post of the front troop commander. The operations group can use its own communications means for control, as well as those of the front air army. After arriving at the command post of the air army, the chief of the operations group will inform the commander regarding the combat capabilities of the allocated forces, will refine the strike objectives with him, and will coordinate all questions regarding joint actions with front aviation, including support by units of long-range aviation for front aviation in the latter's overflights across the front zone. Actual practice in working out problems of coordination with air armies in support of the ground forces shows that this activity must be under the guidance of a representative of the command of the front.

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